

What is claimed is:

1. A system for controlling communication among a plurality of conferees, the system comprising:

a plurality of digital computers for controlling and monitoring telephonic connections over an Internet Protocol (IP) communication network; and

a switch interface in communication with the digital computers over said IP communication network and further in communication with a dial up communication network, wherein:

at least one of the plurality of digital computers transmits digital control signals to the switch interface over the IP communication network;

the switch interface transmits telephonic control signals to the dial up communication network in response to said digital control signals to establish at least one telephonic connection for a conference among the plurality of conferees; and

at least another of the plurality of digital computers subsequently monitors the at least one telephonic connection over the IP communication network.

2. The system of claim 1, wherein the telephonic control signals include Common Channel Signaling SS7 compatible telephonic control signals.

3. A method for controlling communication among a plurality of conferees, the method comprising:

transmitting digital control signals over an Internet Protocol (IP) communication network to a switch interface that transmits telephonic control signals to a dial up communication network in response to the digital control signals to establish at least one telephonic connection for a conference among the plurality of conferees; and

monitoring the at least one telephonic connection over the IP communication network.

4. The method of claim 3, wherein the digital control signals are transmitted by one of a plurality of digital computers, and wherein the at least one telephonic connection is monitored by another of the plurality of digital computers.
5. The method of claim 3, wherein the telephonic control signals include Common Channel Signaling SS7 compatible telephonic control signals.
6. A method for providing a telephone connection in a switched telephone network, the method comprising:
 - providing digital control signals over an Internet Protocol (IP) digital communication network for controlling a telephone connection in a switched telephone network;
 - providing access to the telephone connection in the switched telephone network, such telephone connection controlled using telephone network commands in response to the digital control signals;
 - receiving information from the switched telephone network relating to the telephone connection; and
 - sending digital information representing said information over the digital communication network.
7. The method of claim 6, wherein the digital communication networks comprises at least one of:
 - the Internet; and
 - a private intranet.
8. The method of claim 6, wherein the telephone network commands are in accord with an internationally recognized telephone standard for controlling telephone connections in the switched telephone network.

9. The method of claim 6, wherein the internationally recognized telephone standard is Signaling System 7.
10. The method of claim 6, wherein the switched telephone network is a Public Switched Telephone Network.
11. The method of claim 6, wherein providing the digital control signals over the digital communication network comprises:
 - using a digital computer to send the digital control signals over the digital communication network.
12. The method of claim 11, wherein providing the digital control signals over the digital communication network further comprises:
 - causing the digital computer to send the digital control signals in response to a user input.
13. The method of claim 12, wherein the user input includes a telephone number associated with a telephone device coupled to the switched telephone network.
14. The method of claim 6, wherein the information is status information comprising at least one of:
 - ringing;
 - off-hook;
 - on-hook; and
 - busy.
15. The method of claim 6, wherein the digital control signals comprise protocol data units communicated over a TCP/IP (Transmission Control Protocol/Internet Protocol) transport layer of the digital communication network.

16. The method of claim 15, wherein the protocol data units are communicated in UDP (User Datagram Protocol) datagrams over the TCP/IP transport layer of the digital communication network.

17. The method of claim 16, wherein each protocol data units is a fixed-length message comprising a command/response code and a data field.

18. A method for providing a telephone connection in a switched telephone network, the method comprising:

receiving digital control signals over an Internet Protocol (IP) digital communication network for controlling a telephone connection in a switched telephone network;

controlling the telephone connection in the switched telephone network using telephone network commands in response to the digital control signals;

receiving information from the switched telephone network relating to the telephone connection; and

sending digital information representing said information over the digital communication network.

19. The method of claim 18, wherein the digital communication network comprises at least one of:

the Internet; and

a private intranet.

20. The method of claim 18, wherein the telephone network commands are in accord with an internationally recognized telephone standard for controlling telephone connections in the switched telephone network.

21. The method of claim 20, wherein the internationally recognized telephone standard is Signaling System 7.

22. The method of claim 18, wherein the switched telephone networks is a Public Switched Telephone Network.

23. The method of claim 18, wherein controlling the telephone connection in the switched telephone network using telephone network commands in response to the digital control signals comprises:

controlling the telephone connection as part of a plurality of telephone connections; and

controlling the order in which the plurality of telephone connections are to be rung up and brought on line.

24. The method of claim 18, wherein controlling the telephone connection in the switched telephone network using telephone network commands in response to the digital control signals comprises:

establishing the telephone connection using a telephone number associated with a telephone device connected to the switched telephone network.

25. The method of claim 24, wherein the telephone number is specified in the digital control signals.

26. The method of claim 18, wherein controlling the telephone connection in the switched telephone network using telephone network commands in response to the digital control signals comprises:

terminating the telephone connection using a telephone number associated with a telephone device connected to the switched telephone network.

27. The method of claim 18, wherein providing the digital control signals over the digital communication network comprises:

using a digital computer to send the digital control signals over the digital communication network.

28. The method of claim 27, wherein providing the digital control signals over the digital communication network further comprises:

causing the digital computer to send the digital control signals in response to a user input.

29. The method of claim 28, wherein the user input comprises a telephone number associated with a telephone device connected to the switched telephone network.

30. The method of claim 18, wherein the information is status information comprising at least one of:

ringing;

off-hook;

on-hook; and

busy.

31. The method of claim 18, wherein the digital control signals comprise protocol data units communicated over a TCP/IP (Transmission Control Protocol/Internet Protocol) transport layer of the digital communication network.

32. The method of claim 31, where in the protocol data units are communicated in UDP (User Datagram Protocol) datagrams over the TCP/IP transport layer of the digital communication network.

33. The method of claim 32, wherein each protocol data unit is a fixed-length message comprising a command/response code and a data field.

34. The method of claim 18, wherein controlling the telephone connection in the switched telephone network using telephone network commands in response to the digital control signals comprises:

converting the digital control signals into the telephone network commands for controlling the telephone connection.

35. The method of claim 34, wherein converting the digital control signals includes translating using a lookup table.

36. An interface system for providing a telephone connection involving a telephone device connected to a switched telephone network, the interface system comprising:

an Internet Protocol (IP) network interface for sending and receiving digital control signals over an IP digital communication network;

a telephone network interface for interfacing with a switched telephone network using a predetermined set of telephone network commands to define a telephone connection; and

a microcomputer controlling the telephone connection in the switched telephone network through the telephone network interface in response to digital control signals received over the IP network interface, the microcomputer further receiving information from the switched telephone network relating to the telephone connection via the telephone network interface and sending digital information related to the information over the digital communication network via the IP network interface.

37. The interface system of claim 36, wherein the digital communication network comprises at least one of:

the Internet; and

a private intranet.

38. The interface system of claim 36, wherein the telephone network commands are in accord with an internationally recognized telephone standard for controlling telephone connections in the switched telephone network.

39. The interface system of claim 38, wherein the internationally recognized telephone standard is Signaling System 7.

40. The interface system of claim 36, wherein the switched telephone network is a Public Switched Telephone Network.

41. The interface system of claim 36, wherein the microcomputer controls the telephone connection as part of a plurality of telephone connections and controls the order in which the plurality of telephone connections are to be rung up and brought on line.

42. The interface system of claim 36, wherein the microcomputer establishes the telephone connection using a telephone number associated with a telephone device connected to the switched telephone network.

43. The interface system of claim 42, wherein the telephone number is specified in the digital control signals received over the IP network interface.

44. The interface system of claim 36, wherein the microcomputer terminates the telephone connection using a telephone number associated with a telephone device connected to the switched telephone network.

45. The interface system of claim 36, wherein the information is status information comprising at least one:

ringing;
off-hook;
on-hook; and
busy.

46. The interface system of claim 36, wherein the digital control signals comprise protocol data units communicated over a TCP/IP (Transmission Control Protocol/Internet Protocol) transport layer of the digital communication network.

47. The interface system of claim 46, wherein the protocol data units are communicated in UDP (User Datagram Protocol) datagrams over the TCP/IP transport layer of the digital communication network.

48. The interface system of claim 47, wherein each protocol data unit is a fixed-length message comprising a command/response code and a data field.

49. The interface system of claim 36, wherein the microcomputer converts the digital control signals into the telephone network commands for controlling the telephone connection.

50. The interface system of claim 49, wherein the microcomputer converts the digital control signals into the telephone network commands using a lookup table.

51. An interface system for controlling a telephone connection in a switched telephone network, the interface system comprising:

means for receiving digital control signals over an Internet Protocol (IP) digital communication network;

means for controlling the telephone connection in the switched telephone network using telephone network commands in response to the digital control signals;

means for receiving information from the switched telephone network relating to the telephone connection; and

means for sending digital information relating to said information over the digital communication network.

52. The interface system of claim 51, wherein the digital communication network comprises at least one of:

the Internet; and

a private intranet.

53. The interface system of claim 51, wherein the telephone network commands are in accord with an internationally recognized telephone standard for controlling telephone connections in the switched telephone network.

54. The interface system of claim 53, wherein the internationally recognized telephone standard is Signaling System 7.

55. The interface system of claim 51, wherein the switched telephone networks is a Public Switched Telephone Network.

56. The interface system of claim 51, wherein the means for controlling the telephone connection comprises:

means for establishing the telephone connection.

57. The interface system of claim 51, wherein the means for controlling the telephone connection comprises:

means for terminating the telephone connection.

58. The interface system of claim 51, wherein the means for controlling the telephone connection comprises:

means for converting the digital control signals into the telephone network commands.

59. The interface system of claim 51, wherein the information is status information comprising at least one of:

ringing;

off-hook;

on-hook; and

busy.

60. An apparatus comprising a computer readable medium having embodied therein a computer program for controlling a telephone connection in a switched telephone network, the computer program comprising:

receive logic programmed to receive digital control signals over an Internet Protocol (IP) digital communication network;

control logic programmed to control a telephone connection in a switched telephone network through a telephone network interface in response to the digital control signals, the control logic further programmed to receive information from the switched telephone network relating to the telephone connection via the telephone network interface and send digital information representing the information over the digital communication network via the IP network interface.

61. The apparatus of claim 60, wherein the digital communication network comprises at least one of:

the Internet; and

a private intranet.

62. The apparatus of claim 60, wherein the telephone network commands are in accord with an internationally recognized telephone standard for controlling telephone connections in the switched telephone network.

63. The apparatus of claim 62, wherein the internationally recognized telephone standard is Signaling System 7.

64. The apparatus of claim 60, wherein the switched telephone network is a Public Switched Telephone Network.

65. The apparatus of claim 60, wherein the control logic is programmed to control the telephone connection as part of a plurality of telephone connections and to control the order in which the telephone connections are to be rung up and brought on line.

66. The apparatus of claim 60, wherein the control logic is programmed to establish the telephone connection using a telephone number associated with a telephone device connected to the switched telephone network.

67. The apparatus of claim 66, wherein the telephone number is specified in the digital control signals received over the IP network interface.

68. The apparatus of claim 60, wherein the control logic is programmed to terminate the telephone connection using a telephone number associated with a telephone device connected to the switched telephone network.

69. The apparatus of claim 60, wherein the information is status information comprising at least one of:

ringing;
off-hook;
on-hook; and
busy.

70. The apparatus of claim 60, wherein the digital control signals comprise protocol data units communicated over a TCP/IP (Transmission Control Protocol/Internet Protocol) transport layer of the digital communication network.

71. The apparatus of claim 70, wherein the protocol data units are communicated in UDP (User Datagram Protocol) datagrams over the TCP/IP transport layer of the digital communication network.

72. The apparatus of claim 71, wherein each protocol data unit is a fixed-length message comprising a command/response code and a data field.

73. The apparatus of claim 60, wherein the control logic is programmed to convert the digital control signals into the telephone network commands for controlling the telephone connection.

74. The apparatus of claim 73, wherein the control logic is programmed to translate the digital control signals into the telephone network commands using a lookup table.